

CLAIMS

1. A turbine rear frame comprising:
 - a row of outlet guide vanes extending radially between outer and inner bands, and each vane including an internal channel extending through said outer band;
 - each of said vanes being bifurcated into a forward prow integrally joined to an aft stern by a narrow septum introducing a first radial slot between said prow and stern; and
 - a row of apertures disposed adjacent said septum in each of said vanes in flow communication between said channels and first slots.
2. A frame according to claim 1 wherein said prow and stern in each of said vanes collectively define an aerodynamic profile having a convex suction side and an opposite concave pressure side extending chordally from a leading edge on said prow, and converging to a trailing edge on said stern, and interrupted chordally therebetween by first slot.
3. A frame according to claim 2 further comprising means for supplying pressurized air into said hollow vanes for discharge through said apertures into said first slots.
4. A frame according to claim 2 further comprising means for withdrawing exhaust flow from said first slots and through said apertures and hollow vanes.
5. A frame according to claim 2 further comprising:
 - an internal channel in said prow disposed in flow communication with a second slot by a row of prow apertures;
 - an internal channel in said stern disposed in flow communication with said first slot by a row of stern apertures;
 - means for supplying pressurized air into said vanes for discharge through said first or second slots; and
 - means for withdrawing exhaust flow through said vanes from said first and second slots in contraposition with said air supplying means.

6. A frame according to claim 2 wherein said radial slot faces forward in said vane suction side.
7. A frame according to claim 2 wherein said radial slot faces aft in said vane suction side.
8. A frame according to claim 2 wherein said radial slot faces forward in said vane pressure side.
9. A frame according to claim 2 wherein said radial slot faces aft in said vane pressure side.
10. A frame according to claim 2 wherein each of said vanes includes said first radial slot in one side thereof, and a second radial slot on an opposite side thereof joined in flow communication with a second internal channel therein.
11. A turbine rear frame comprising:
a row of outlet guide vanes extending radially between outer and inner bands; and
each of said vanes includes a prow integrally joined to a stern by a septum extending chordally therebetween to collectively define an aerodynamic profile having a convex suction side and a concave pressure side extending chordally between a leading edge on said prow and a trailing edge on said stern interrupted chordally therebetween at said septum.
12. A frame according to claim 11 wherein said septum is narrow and introduces a radial slot separating in part said prow from said stern.
13. A frame according to claim 12 wherein said prow is a minor portion of each of said vanes, and said stern is a major portion thereof.

14. A frame according to claim 13 wherein said stern converges aft to said trailing edge from its junction with said prow at said septum.
15. A frame according to claim 14 wherein said vanes are hollow in part and include a row of apertures adjacent said septum in flow communication with said slot.
16. A frame according to claim 15 wherein said hollow vanes include internal channels extending through said outer band in flow communication with said apertures.
17. A frame according to claim 16 further comprising means for supplying pressurized air into said hollow vanes for discharge through said apertures into said slots.
18. A frame according to claim 16 further comprising means for withdrawing exhaust flow from said slots and through said apertures and hollow vanes.
19. A frame according to claim 16 wherein said slot faces forward in said vane suction side.
20. A frame according to claim 19 wherein said prow and stern are spaced apart at said slot to provide unobstructed access to said slot.
21. A frame according to claim 16 wherein said slot faces aft in said vane suction side.
22. A frame according to claim 21 wherein said prow includes a lip extending aft over said slot.
23. A frame according to claim 16 wherein said slot faces forward in said vane pressure side.
24. A frame according to claim 23 wherein said prow and stern are spaced apart at said

slot to provide unobstructed access to said slot.

25. A frame according to claim 16 wherein said slot faces aft in said vane pressure side.

26. A frame according to claim 25 wherein said prow includes a lip extending aft over said slot.

27. A frame according to claim 16 wherein said septum is spaced inwardly from both sides of said vane to introduce opposite radial slots therein.

28. A frame according to claim 27 wherein said slots in said suction and pressure sides both face forward.

29. A frame according to claim 27 wherein said slots in said suction and pressure sides both face aft.

30. A frame according to claim 27 wherein said slot in said vane suction side faces forward, and said slot in said vane pressure side faces aft.

31. A frame according to claim 16 wherein said septum is spaced inwardly from said vane suction side and adjoins said vane pressure side, and said slot faces forward in said vane suction side.

32. A frame according to claim 31 wherein:
said prow includes a second radial slot facing aft in said vane pressure side; and
said prow is hollow, and includes another row of apertures extending therethrough in flow communication with said second slot.